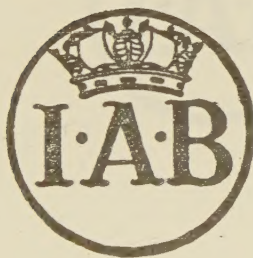


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HELMINTHOLOGICAL ABSTRACTS //

VOL. IX

incorporating
BIBLIOGRAPHY OF HELMINTHOLOGY
For the Year 1940



IMPERIAL BUREAU OF AGRICULTURAL PARASITOLOGY
(HELMINTHOLOGY)

Winches Farm Drive, Hatfield Road,
St. Albans, England.

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HELMINTHOLOGICAL ABSTRACTS

INCORPORATING BIBLIOGRAPHY OF HELMINTHOLOGY

FOR THE YEAR 1940

Vol. IX, Part I.

1—Agricultural Progress.

- a. ROBERTSON, D., 1940.—“Eelworm problems in war time.” 17 (1), 42-47.

(1a) In relation to the probable war-time shortening of rotations and the more frequent cropping of land with the same crop, Robertson discusses the effect which these measures are likely to have on certain eelworm diseases of food plants. The diseases considered are (i) “cockle” in wheat caused by *Anguillulina tritici*, (ii) “tulip root” in oats due to *A. dipsaci* and (iii) “beet sickness” and “potato sickness” due respectively to the beet and potato races of *Heterodera schachtii*. In each case symptoms of attack and possible control measures are briefly dealt with. T.G.

2—American Journal of Hygiene. Section D. Helminthology.

- a. SCOTT, J. A., 1940.—“Schistosomiasis in irrigated mountain valleys of Venezuela.” 31 (1), 1-15.
b. CHANDLER, A. C., 1940.—“Failure of artificial immunization to influence *Hymenolepis diminuta* infections in rats.” 31 (1), 17-22.
c. OTTO, G. F., 1940.—“A serum antibody in dogs actively immunized against the hookworm, *Ancylostoma caninum*.” 31 (2), 23-27.
d. LAWLER, H. J., 1940.—“Passive transfer of immunity to the nematode, *Strongyloides ratti*.” 31 (2), 28-31.
e. HOLL, F. J., SIMON, A. J. & HECTOR, L. G., 1940.—“The effect of short electric wave radiation on the development of *Trichinella spiralis*.” 31 (2), 32-36.
f. OTTO, G. F. & LANDSBERG, J. W., 1940.—“Dietary deficiencies and iron salts in hookworm infections.” 31 (2), 37-47.

(2a) Scott has studied schistosomiasis in the irrigated valleys of the river Guaire in Venezuela. The rainfall is copious but intermittent during most of the year, but from November to March there is virtually no rain. Irrigation is primarily responsible for the abundance of *Australorbis glabratus*. These snails are almost constantly present in the main canals and the storage tanks. They are also frequent in pools where clay has been dug. The incidence of Bilharzia infection in males ranges from 33% to 79% and in females from 18% to 59% in the various districts examined. The various factors in the epidemiology of the disease are discussed under 6 heads. The disease is as severe in limited areas in Venezuela as anywhere else. The

preventive measures suggested are based on elimination of the snails by reconstruction of the canals and the prevention of accumulation of water, protection from infection and avoidance of exposure at dangerous places.

R.T.L.

(2b) Chandler has attempted to establish some degree of immunity in rats to infections with *Hymenolepis diminuta*. He fed fresh minced adult worm in large doses, implanted living worms into the peritoneal cavity and gave subcutaneous injections of saline suspensions of whole worm before the experimental feedings with eggs. None of these treatments, however, had any inhibitory effect on the development of living worms in the intestine. Adult worms in the intestine do not cause the development of any immunity in this species, thus contrasting with the results obtained by Turner et al. when using the genus *Echinococcus* [see Helm. Abs., Vol. II, No. 40a; Vol. V, No. 43a].

P.A.C.

(2c) Otto publishes evidence to show that sera of dogs actively immunized against hookworm contain an antibody which is inimical to larvae. Following exposure to such a serum, the vitality of larvae is not apparently affected but their ability to develop further is much reduced.

P.A.C.

(2d) Lawler shows that a resistance to infection with *Strongyloides ratti* can be produced passively in rats by administration of immune serum. The method is equally effective whether the immunizing dose is given before or after the test infection with larvae.

P.A.C.

(2e) Larvae of *Trichinella spiralis* were irradiated with high frequency electromagnetic waves by Holl, Simon & Hector. After 15 minutes irradiation at a frequency of 8,470,000 cycles, 40% of the larvae were killed: similar exposure to a frequency of 4,750,000 cycles for 15 minutes resulted in the death of 47.64% of the larvae. As no heat changes occurred in this treatment, it is suggested that the reduction in the number of larvae was due to electric vibrations set up within the living cells or to molecular re-arrangement of the protoplasm.

P.A.C.

(2f) Otto & Landsberg find that a balanced and adequate diet is of fundamental importance in the prevention of the development of hookworm anaemia in dogs. Large amounts of iron added to an otherwise deficient diet did nothing to prevent anaemia. Further, it had no effect on the development or persistence of the helminths. It did, however, stimulate a transient erythropoiesis.

P.A.C.

3—American Journal of the Medical Sciences.

- a. MURPHY, F. D., JAMES, H. D. & RASTETTER, J. W., 1940.—“Trichinosis. A study of 23 cases.” 199 (3), 328-338.

4—American Journal of Tropical Medicine.

- a. TALIAFERRO, W. H., 1940.—“The mechanism of immunity to metazoan parasites.” 20 (2), 169-182.
- b. CORT, W. W., 1940.—“Research on helminth diseases and public health progress.” 20 (2), 183-198.

- c. STUNKARD, H. W., 1940.—“The morphology and life history of the cestode, *Bertiella studei*.” 20 (2), 305-333.

(4a) Taliaferro surveys the facts and theories dealing with the mechanism of immunity in helminthological infections, taking as representative examples *Nippostrongylus muris* and *Cysticercus taeniaeformis*. He stresses the importance of the precipitins not only in the production of precipitates *in vivo* and in the inducing of allergy but also their possible significance against invading parasites by stunting or immobilizing them. Larval tape-worms produce antibodies, both absorbable and non-absorbable, in a form in which they may be easily handled. He draws attention to the need for further work on the nature and reactions of the enzymes of helminth parasites.

P.A.C.

(4b) In his address to the American Academy of Tropical Medicine, Cort broadly surveys the field of human helminthology from the aspects of control and immunity, drawing examples from cercarial dermatitis, ascariasis, hookworm disease, etc., and emphasizing the great complexity of modern research problems in that field.

B.G.P.

(4c) Stunkard gives a detailed study of the morphology of *Bertiella studei* based on material from *Macacus rhesus*. When eggs were fed experimentally to the free-living mites *Notaspis coleoptratus*, *Scutovertex minutus*, *Scheloribates laevigatus* and *Galumna* sp., onchospheres and developing larvae were recovered from the body cavity while cysticeroids were found later in *S. laevigatus* and *Galumna* sp. These were spherical to oval and pyriform, 0.1 mm. to 0.15 mm. in diameter and provided with small cercomeres. R.T.L.

5—Annales de Parasitologie Humaine et Comparée.

- a. DESPORTES, C., 1940.—“*Filaria conjunctivae* Addario 1885, parasite accidentel de l'homme, est un *Dirofilaria*.” 17 (5), 380-404; (6), 515-532.
- b. DESPORTES, C., 1940.—“Nouvelle description de l'extrémité céphalique de l'adulte de *Dirofilaria immitis* (Leidy 1856).” 17 (5), 405-414.
- c. DOLLFUS, R. P., 1940.—“Cestodes du genre *Raillietina* trouvés chez l'homme en Amérique intertropicale.” 17 (5), 415-442; (6), 542-562.
- d. BRUMPT, L. C., 1940.—“La ponction médullaire dans les maladies parasitaires.” 17 (6), 481-514.
- e. GALLIARD, H., 1940.—“Recherches sur la strongyloïdose au Tonkin. Rôle des animaux domestiques dans l'étiologie de l'infestation humaine.” 17 (6), 533-541.
- f. BRUMPT, E., VELASQUEZ, J., UCROZ, H. & BRUMPT, L.C., 1940.—“Découverte de l'hôte intermédiaire, *Limnaea bogotensis* Pilsbry, de la grande douve, *Fasciola hepatica*, en Colombie.” 17 (6), 563-579.
- g. FAURE, L., 1940.—“Traitement des helminthiases équine par le pétrole.” 17 (6), 590-592.

(5a) Desportes describes a filarial worm removed from a nodule in the breast of a woman who had never left Corsica. He shows that the worm belongs to the species known as *Filaria conjunctivae* Addario, 1885, and after a detailed systematic discussion concludes that this is a *Dirofilaria*. After reviewing the many species of this genus he finds that the present worm is very close to *D. repens* but that, for the time being, it would best be distinguished as *D. conjunctivae* n. comb.

B.G.P.

(5b) Desportes' re-examination of the head of *Dirofilaria immitis* shows that it bears 8 submedian and 2 lateral papillae, as in *D. genettæ*, *D. conjunctivæ* and *D. repens*. B.G.P.

(5c) Dollfus redescribes the 5 species of *Raillietina* found in man in Ecuador [see Helm. Abs., Vol. VII, No. 398f; Vol. VIII, No. 101k] and describes *R. (Raillietina) loechesalavezi* n. sp. and *R. (R.) kouridovali* n. sp., both from man in Cuba. The only other neotropical species from man is *R. demerariensis* Daniels. It is uncertain whether, with more extensive material, some of these 8 species might prove to be merely varieties. B.G.P.

(5d) Reviewing the methods and uses of sternal puncture as a diagnostic technique in various parasitic infestations, L. C. Brumpt mentions that the presence of both microfilariae and an eosinophilia has been demonstrated in marrow in filariasis, but the technique has no advantages, in this case, over the simple blood smear. B.G.P.

(5e) Galliard has readily infected dogs and cats with *Strongyloides stercoralis* of human origin, this strain being very pathogenic to dogs, and retaining its virulence after successive passages. Moreover, a dog may acquire a massive and fatal infestation without larvae appearing in the faeces. Human material, slowing both direct and indirect development cycles, became indirect only, after successive passages through dogs: this is the reverse of findings in America. B.G.P.

(5f) Brumpt et al. found 2 *Limnaea bogotensis* infested with *Fasciola hepatica* out of 122 examined, on heavily contaminated pastures in the Bogota savannah (2,600 m. altitude) in Colombia. They describe the habitat, and briefly review the other 15 natural and 4 experimental intermediaries of the fluke. B.G.P.

(5g) Some 50 years ago Boulay used petroleum as an anthelmintic. Faure has now tested it in horses and finds that it is efficacious against ascarids and oxyurids, which it kills, and also against strongyles and cylicostomes. A total dose of 0.5 to 0.7 c.c. per kg. live weight is best given in 3 daily doses, fasting, mixed with culinary or castor oil, and followed by water. The drug is well supported and free from contra-indications. Faure cites a case in which 1,100 ascarids were evacuated in one night. B.G.P.

6—Annals and Magazine of Natural History.

- a. MEGGITT, F. J., 1940.—“On two tapeworms from a Burmese snake.” Ser. 11, 5 (26), 255-256.

(6a) Meggitt reports *Crepidobothrium nankingensis* from *Homalopsis buccata* in Rangoon. Two larvae taken from the musculature of the back of the same host belonged to the genus *Diphyllobothrium* and may be *D. reptans*. No cestode parasites have been recorded from this host before. P.A.C.

7—Archives of Internal Medicine.

- a. HAIGHT, C. & ALEXANDER, J., 1940.—“Hydatid cysts of the lung.” 65 (3), 510-523.

8—Australian Veterinary Journal.

- a. ROBERTS, F. H. S., 1940.—“Notes on some helminths infesting domestic animals in Queensland.” 16 (1), 30-33.

(8a) Roberts records *Necator americanus*, *Trichostrongylus colubriformis*, *T. axei* and *Strongyloides* sp. from pigs, *Capillaria columbae* and *C. collaris* from poultry, and *Angiostrongylus vasorum* and *Taenia ovis* from the dog in Queensland.

R.T.L.

9—Berliner und Münchener Tierärztliche Wochenschrift.

- a. HASSKÓ, A. & TURGAY, I., 1940.—“Versuche über den Wirkungsmechanismus der Leberegelmittel. I.” Jahrg. 1940 (3), 28-29.
b. ENDRIGKEIT, A., 1940.—“Ein durch Parasiten hervorgerufenen Schwanensterben auf dem Nordenburger See.” Jahrg. 1940 (13), 148-151.

(9a) Hasskó & Turgay give the results of treating flukes *in vitro* with a large number of anthelmintics, but they conclude that there is no relation between *in vitro* and *in vivo* effects.

B.G.P.

(9b) Endrigkeit ascribes a decimating disease amongst mute swans in East Prussia to the effects of heavy parasitism in the cygnets. The chief parasites were *Hymenolepis aquabilis*, *Gigantobilharzia monocotylea*, and flukes, including *Protoclepis granata* n. comb. (regarded by Mégnin as a variety of *P. tessalata*). There are brief descriptions of *Ophriocotyle minutum* n. sp. and *Cotylurus strictus* n. sp. from the same host.

B.G.P.

10—Biological Bulletin.

- a. CABLE, R. M. & HUNNINEN, A. V., 1940.—“Studies on the life history of *Spelotrema nicolli* (Trematoda: Microphallidae) with the description of a new microphallid cercaria.” 78 (1), 136-157.

(10a) The cercariae of *Spelotrema nicolli* develop in sporocysts in the digestive gland of *Bittium alternatum*. The cercariae, which are described, encyst in the blue crab, *Callinectes sapidus*. Young *Larus argentatus* were infected experimentally. A description is given of *Cercaria nassicola* Cable & Hunninen, 1938.

R.T.L.

11—Brasil-Medico.

- a. SIFFERT DE PAULA E SILVA, G., 1940.—“Doenças parasitarias do tracto digestivo.” 54 (7), 98-103.

12—Bulletin et Mémoires de la Société Médicale des Hôpitaux de Paris.

- a. DUVOIR, M., POLLET, L., BRUMPT, L. C. & CHÉNEBAULT, J., 1940.—“Un cas de polyglobulie traité par ankylostomose provoquée. (Résultats favorables sur la polyglobulie et sur l'hypertension artérielle).” 56 (4/6), 42-45.

(12a) Duvoir and collaborators give a report of a case with a clinical syndrome suggesting arteriopathic polycythaemia: the red-cell count reached 8,250,000. Helminthological interest centres in the fact that a therapeutic infection of *Ancylostoma duodenale* was experimentally set up, and the red cells thereby reduced to under 4 million. Anthelmintics and a protein-rich diet then restored the count to 6 million.

B.G.P.

13—Bulletin de la Société de Pathologie Exotique.

- a. MALBRANT, R., 1940.—“ I. Existence de la leishmaniose canine au Congo Français. II. Ankylostomiasse canine et formolgelification.” 33 (1), 12-14.
- b. PAVLOV, P., 1940.—“ Le rôle de l'avitaminose dans l'infestation du pigeon par le *Taenia echinococcus*. (Les pigeons âgés sont-ils susceptibles de servir d'hôte au parasite ?). ” 33 (2), 93-96.
- c. PENEY, M., 1940.—“ Méningite aiguë d'origine ascaridienne.” 33 (2), 132-134.
- d. STEFANOPOULO, G. J. & DANIAUD, J., 1940.—“ Réaction de fixation du complément et intradermo-réaction au cours de la filariose humaine à *Dr. medinensis*. ” 33 (3), 149-153.

(13a) In testing for leishmaniasis in dogs, Malbrant found that the serum-formalin diagnostic reaction is sometimes positive in dogs infested with hookworm, but in such cases the characteristic opalescence does not occur: there is merely solidification of the serum. B.G.P.

(13b) Pavlov has deprived adult pigeons of their vitamins in order to see if they then became susceptible to infection with *Taenia echinococcus*, in either adult or larval stage. His results showed that this dietary deficiency was not enough to break down their resistance to the cestode. P.A.C.

(13d) Using extracts of *Dirofilaria immitis* as antigen, Stefanopoulo & Daniaud have obtained fixation of complement in the serum of patients infected with *Dracunculus medinensis*. The reaction was strongly positive for 2 months after infection, after which it fell off rapidly. Positive results were also obtained with the use of the intradermal reaction and these persisted for 8 months after infection. P.A.C.

14—Canadian Journal of Comparative Medicine.

- a. LYSTER, L. L., 1940.—“ On the use of commercial papain for the digestion of trichinosed meat.” 4 (3), 73-75.
- b. PARNELL, I. W., 1940.—“ The comparative value of some further chemicals in the treatment of manure against sclerostome larvae.” 4 (3), 76-77.

(14a) After testing various concentrations of papain at 30° to 40° C. for the digestion of trichinosed meat, Lyster found that digestion was more thorough than with pepsin, even in water-solutions. An insoluble residue proportional in amount to the quantity of papain used, and incomplete excystment, were the only difficulties. The recommended concentration is 0.1 g. papain in 313 c.c. normal saline per 100 g. tissue. The salt stimulates excystment, and preliminary tests suggest that larvae so released can be used for preparing intradermal and precipitin antigens. B.G.P.

(14b) Parnell publishes a supplementary list of 15 substances which in solution have proved lethal to sclerostome larvae in horse droppings. The list shows the lethal concentration of each substance and ranges from methyl iodide (0.01%) to poultry manure (30 to 40%). A diagram explains the technique by which the droppings, in a muslin bag, are immersed in the solution under test, incubated, and extracted in a Baermann funnel, after which the count of escaping larvae is compared with that of an untreated control. B.G.P.

15—Canadian Journal of Research. Section D. Zoological Sciences.

- a. McLEOD, J. A., 1940.—“Studies on cercarial dermatitis and the trematode family Schistosomatidae in Manitoba.” 18 (1), 1-28.
- b. SWALES, W. E., 1940.—“The helminth parasites and parasitic diseases of sheep in Canada. I. A survey and some preliminary studies on existing problems.” 18 (1), 29-48.
- c. LYSTER, L. L., 1940.—“Parasites of freshwater fish. II. Parasitism of speckled and lake trout and the fish found associated with them in Lake Commandant, Que.” 18 (2), 66-78.
- d. LYSTER, L. L., 1940.—“*Paraceonogonimus* [*Paracoenogonimus*] *katsuradi* sp. nov. (Trematoda : Strigeida) from *Lophodytes cucullatus* in Quebec.” 18 (3), 79-82.
- e. CAMERON, T. W. M., 1940.—“Investigations on trichinosis in Canada. III. On the incidence of trichinosis in garbage-fed hogs.” 18 (3), 83-85.
- f. LYSTER, L. L. 1940.—“*Apophallus imperator* sp. nov., a heterophyid encysted in trout, with a contribution to its life history.” 18 (3), 106-121.

(15a) McLeod finds that 3 brevifurcate cercariae are implicated in the aetiology of dermatitis in Manitoba: *Cercaria elvae*, *C. stagnicola*, and *C. dermolestes* n. sp., all from Limnaeid snails. Seven longifurcate pharyngeal cercariae are exonerated. *C. wardlei* is redescribed. McLeod also gives keys to the subfamilies and genera of the Schistosomatidae, and describes *Ornithobilharzia aviani* and *O. filamenta* n. spp. from *Larus* spp. in Manitoba.

B.G.P.

(15b) Swales lists the helminthic parasites of sheep in Canada, including *Gongylonema pulchrum* and *Capillaria longipes* which are new Canadian records. He explains his technique for worm counts, and gives counts from a number of lambs, including some seasonal counts, from both eastern and western Canada. As between cull and market lambs, the former gave significantly higher counts only in the case of *Haemonchus*; the latter is the major parasite in eastern Canada in summer, being replaced by *Trichostrongylus* and other species later in the year.

B.G.P.

(15c) Lyster describes the helminths of the following 4 freshwater fishes of Quebec: *Catostomus commersonii* (common sucker), *Cristivomer naymaycush* (lake trout), *Perca flavescens* (yellow perch) and *Salvelinus fontinalis* (speckled trout). From the common sucker 2 out of 3 species are new, viz., *Glaridacris intermedius* and *Rhabdochona laurentiana*. In the speckled trout, 5 known species, 2 larval forms, and *Raphidascaris alius* n. sp. are reported.

R.T.L.

(15e) Samples of diaphragms of unselected hogs collected from various abattoirs in Manitoba and eastern Canada were examined for trichinae by compression and by digestion. Only 2 out of 995 garbage-fed hogs showed infection.

R.T.L.

16—Canadian Public Health Journal.

- a. KUITUNEN-EKBAUM, E., 1940.—“A survey of intestinal parasites in children in Toronto.” [Abstract of paper presented at the Christmas Meeting of the Laboratory Section, Toronto, December 1939.] 31 (1), p. 30.
- b. HADWEN, S. & FALLIS, A. M., 1940.—“Some notes on schistosome dermatitis.” [Abstract of paper presented at the Christmas Meeting of the Laboratory Section, Toronto, December 1939.] 31 (1), p. 30.

(16a) A survey of children of ages 1 to 15 was carried out in Toronto, and 34% of 438 faecal samples were found to harbour parasites: 9 species of protozoa and 5 species of helminths. Peri-anal swabs from 843 children revealed a 49% infestation with *Enterobius vermicularis*. M.R.Y.

(16b) Hadwen & Fallis investigated an outbreak of "swimmer's itch" in lakes in Elk Island Park, Alberta, and found cercariae of the "*elvae*" group in *Limnaea stagnalis* inhabiting the lakes. The cercariae were thought responsible for the outbreak. J.J.C.B.

17—East African Medical Journal.

- a. HIGGINS, R. H. C., 1940.—"Diseases of animals in Tanganyika communicable to man." [Abstract of paper presented to the Tanganyika Branch of the British Medical Association.] 16 (12), 480-481.

(17a) The incidence of *Cysticercus bovis* in Tanganyika varies from a low rate in Shinyanga to almost 100% in some parts of the country. This may be attributed to the grazing of cattle near to villages. *C. cellulosae* has been reported in the southern highlands. *T. echinococcus* is stated to be common in cats and dogs. R.T.L.

18—Farming in South Africa.

- a. MÖNNIG, H. O., 1940.—"The danger of worms in sheep." 15 (166), p. 14.
 b. MÖNNIG, H. O., 1940.—"Parasites and sheep farming." 15 (167), 43-44.
 c. MÖNNIG, H. O. & CLUVER, E. H., 1940.—"Tapeworms of man and measles in cattle and pigs." 15 (167), 57, 75.

19—Geneeskundig Tijdschrift voor Nederlandsch-Indië.

- a. ZAINAL, STREEF, G. M. & STREEF-SPAAN, A. M., 1940.—"Eiwitspectrum en oedeem bij de ankylostomiasis." 80 (1), 3-22.
 b. BONNE, C. & SANDGROUND, J. H., 1940.—"*Bilharzia japonicum* aan het Lindoermeer." 80 (8), 477-481.

(19a) From an analysis of the blood plasma of 29 hookworm cases, Zainal et al. find that there is a decrease in albumin and an increase in globulin, with a net decrease in total plasma protein. This is especially marked in oedematous patients, and the oedema is explained in terms of reduced colloid-osmotic pressure, due to reduced blood-albumin, due in turn to inadequate protein in the diet, possibly combined with insufficient absorption. B.G.P.

(19b) Bonne & Sandground found that 93 out of 176 members of a primitive tribe on the shores of Lake Lindoe, Celebes, were infected with *Bilharzia japonica*. There were no dysenteric symptoms and the prevalent splenomegaly may have been malarial. Of 12 identified molluscs none were naturally or experimentally infected. B.G.P.

20—Imperial Bureau of Agricultural Parasitology (Helminthology). Pamphlet.

- a. LEIPER, R. T., 1940.—"On preventing the spread of 'potato sickness' to new land." No. 1, 7 pp.

(20a) This pamphlet outlines for the layman the life-history of *Heterodera schachtii* and draws attention to the rôle played by "seed" and "ware" potatoes in the spread of infection. The soil from barrels and bags in which potatoes are sent to market contains the cysts of the parasite. When the containers are returned to the fields to be refilled this soil may be tipped out on to uninfected land. The cysts of the oat, clover, mangold, and grass strains are also dispersed in potato soil. Jet spraying of potatoes and their containers is recommended as a simple method of mechanically removing the cysts.

R.T.L.

21—Imperial Bureau of Agricultural Parasitology (Helminthology). Publications.

- a. GOODEY, T., 1940.—"The nematode parasites of plants catalogued under their hosts." 80 pp.

(21a) Goodey has compiled a catalogue of all records of nematodes as parasites of plants up to the end of 1939. The plants are listed in alphabetical order under their scientific names and after each is given its nematode parasite, or parasites, with the name of recorder and date. Following an explanatory introduction, the main part of the work consists of a list of names of more than 2,000 species and varieties of flowering plants followed by shorter lists of flowerless plants comprising the names of 78 ferns, 55 mosses, 5 liverworts and 3 seaweeds, with nematode parasites for each host plant. There follow a list of popular names of plants with their scientific equivalents and a list of synonyms of the scientific names of certain plants. A bibliography of 476 references completes the work.

T.G.

22—Indian Medical Gazette.

- a. HARE, K. P., 1940.—"An experiment in coolie line sanitation. Effect on hookworm incidence." 75 (2), 86-88.
b. CHANDRA, H., 1940.—"A hydatid cyst in the neck." 75 (2), 95-96.
c. RAO, S. S., 1940.—"The adult of *Microfilaria malayi* Brug, 1927." 75 (3), 159-160.

(22a) Hare recommends the bore-hole latrine for hookworm prophylaxis, on the basis of his experience in coolie lines in Assam [see Helm. Abs., Vol. VIII, No. 320a]. The principle of one latrine per family is more acceptable to the coolies than that of communal latrines.

B.G.P.

(22c) Two males and two females of *Wuchereria malayi* n. sp. were removed from dilated lymphatics which formed a cyst on the forearm of a patient from the Shertalai area of North Travancore. The males show very slight differences from *Wuchereria bancrofti* while the females are indistinguishable. The tail papillae in *W. malayi* consist of 2 pairs of large papillae, one immediately in front of, the other just behind, the cloaca, and in close apposition to them are 2 pairs of smaller papillae. The spicules resemble those of *W. bancrofti* in design and there is also an accessory piece but they are much more delicate than those of *W. bancrofti*.

R.T.L.

23—Indian Veterinary Journal.

- a. RAO, M. A. N., 1940.—"On some worms of the genera *Trichostrongylus* Looss, 1905, and *Cooperia* Ransom, 1907, in South India." 16 (5), 306-311.

(23a) Rao records *Trichostrongylus colubriformis* and *T. axei* from goats, and *Cooperia punctata* and *C. pectinata* from the abomasum of cattle in Madras, South India. A redescription of these parasites is given aided by microphotographs and drawings. J.W.G.L.

24—Journal of the American Medical Association.

- a. WRIGHT, W. H. & BRADY, F. J., 1940.—“Studies on oxyuriasis. XXII. The efficacy of gentian violet in the treatment of pinworm infestation.” 114 (10), 861-866.

(24a) Wright & Brady treated 224 pinworm-infested persons with gentian violet tablets. Between 58% and 90% were negative on 7 consecutive daily NIH post-treatment swabs, thus showing gentian violet to be superior to all other methods of therapy yet tested. M.R.Y.

25—Journal of the American Veterinary Medical Association.

- a. GUYSELMAN, P. C., 1940.—“Controlling diseases and parasites in garbage-fed hogs.” 96 (754), 18-23.
 b. ANNÉREAUX, R. F., 1940.—“A note on *Echinoparyphium recurvatum* (von Linstow) parasitic in California turkeys.” 96 (754), 62-64.
 c. STEWART, M. A., 1940.—“Ovine thelaziasis.” 96 (757), 486-489.
 d. OBERHANSLEY, F. R., 1940.—“California mule deer a host for nematode eye worms in Sequoia National Park.” 96 (757), p. 542.
 e. QUORTRUP, E. R. & HOLT, A. L., 1940.—“Filariasis in wild swans.” 96 (757), 543-544.
 f. PRITCHETT, H. D., 1940.—“Lingual trichinosis in a cat.” 96 (757), 544-545.

(25a) Guyselman is of opinion that any scheme for the eradication of trichinosis by the enforcement of the sterilization of garbage would be destined to failure if it failed to take into account the widespread presence of trichinosis in farm-raised pigs which are fed on garbage from the home. R.T.L.

(25b) *Echinoparyphium recurvatum* is recorded in turkeys for the first time. R.T.L.

(25c) *Thelazia californiensis*, known to occur in the eye of dogs and reported once from man in California, has been found by Stewart to be present in considerable numbers in the eyes of sheep and deer in widely separated areas. The absence of infection in dogs closely associated with infected sheep, suggests that this helminth is primarily a parasite of herbivores and that its occurrence in dogs is accidental. R.T.L.

(25d) *Thelazia californiensis* has been found by Oberhansley in the eye of a buck deer in Sequoia National Park, California. R.T.L.

(25e) At Brigham, Utah, in 1939, the authors found specimens of *Sarconema eurycerca* under the epicardium of 10 out of 42 whistling swans (*Cygnus columbianus*). Large numbers of larvae were found in blood smears from the endocardium. R.T.L.

26—Journal of the Egyptian Medical Association.

- a. ABDEL SHAFI, M., 1940.—“Bilharziasis and its relation to appendicitis.” 23 (1), 1-30.

- b. ABDEL SHAFI, M., 1940.—“The rôle of bilharziasis in the production of cholecystitis.” 23 (3), 116-139. [Discussion pp. 140-152.]

27—Journal of Parasitology.

- a. STUNKARD, H. W., 1940.—“Life history studies and the development of parasitology.” 26 (1), 1-15.
- b. ACKERT, J. E., WHITLOCK, J. H. & FREEMAN, jr., A. E., 1940.—“The food of the fowl nematode, *Ascaridia lineata* (Schneider).” 26 (1), 17-32.
- c. WHITLOCK, J. H., 1940.—“Studies upon *Strongylus vulgaris*. IV. A method of determining the endpoint of the reaction of a lethal agent against adults in vitro.” 26 (1), 45-47.
- d. WHITLOCK, J. H., 1940.—“Studies upon *Strongylus vulgaris*. V. In vitro toxicity of copper sulphate and the cupric halides.” 26 (1), 49-57.
- e. VAN CLEAVE, H. J. & LINCICOME, D. R., 1940.—“A reconsideration of the acanthocephalan family Rhadinorhynchidae.” 26 (1), 75-81.
- f. MACY, R. W., 1940.—“A new trematode, *Myotitrema asymmetrica* n.g., n. sp., (Lecithodendriidae) from the little brown bat.” 26 (1), 83-84.
- g. OLIVIER, L., 1940.—“Development of *Diplostomum flexicaudum* (Cort and Brooks) in the chicken by feeding precocious metacercariae obtained from the snail intermediate host.” 26 (1), 85-86.

(27a) In this Presidential Address to the American Society of Parasitologists, Stunkard reviews the advances and methods of parasitological studies. He has succeeded in rearing the trematode *Plagitura parva* from the metacercarial stage to sexual maturity in a bacteria-free solution consisting of the salt-dextrose-Hottinger broth seeded with live yeast. Immunity against animal parasites is influenced by diet and other factors and has much in common with that resulting from bacterial infections. As their principles and methods are identical, it is unwise to attempt to distinguish between human and veterinary parasitology. Now that the morphology and life-history of many forms are known, progress awaits further information from physiological studies. R.T.L.

(27b) The food of *Ascaridia lineata* is considered to be chiefly host ingesta, for in chickens fed only with oral or parenteral injections of glucose the worms were fewer and shorter, a fact attributable to partial starvation. R.T.L.

(27c) The ascertainment of death in *Strongylus vulgaris* is almost universally based on cessation of movement. The true rigor mortis which develops after movement has ceased is a more reliable criterion. An instrument which measures the appearance of this phenomenon with a fair degree of accuracy is described and illustrated. R.T.L.

(27d) On the results of *in vitro* tests with cupric sulphate, chloride fluoride and bromide on *Strongylus vulgaris* kept in 0.85% NaCl solution in an incubator at 37-38°C., Whitlock concludes that the toxicity of simple copper compounds varies with the amount of soluble copper available and the toxicity of the anion joined with the copper ion. The effective action of copper sulphate against *Haemonchus contortus* is due to the fact that copper compounds can remain in effective soluble form only in an acid solution such as obtains in the abomasum and are ineffective in neutral media. R.T.L.

(27e) Within the Rhadinorhynchidae are 2 distinct groups of genera differing in the number of cement glands. For those with 4 cement glands a new family Gorgorhynchidae is created with *Gorgorhynchus* Chandler, 1934 as type. The other genera included are *Aspersentis*, *Cleaveius*, *Filisoma*, *Micracanthocephalus*, *Nipporhynchus* and *Serrasentis*, while the now restricted Rhadinorhynchidae comprises *Rhadinorhynchus*, *Illiosentis*, *Leptorhynchoides*, *Polyacanthorhynchus*, *Tegorhynchus* and *Telosentis*. R.T.L.

28—Journal of the Royal Agricultural Society of England.

- a. LEIPER, R. T., 1940.—“The potato eelworm problem of to-day.” 100 (3), 63-73.

(28a) After outlining the life-history of *Heterodera schachtii* and recent work on control, Leiper draws attention to the danger of the spread of infection through the conveyance of cysts in the soil left in containers of seed and ware potatoes and the ease with which this can be eliminated by jet spraying. The view is expressed that the potato industry will eventually recognise that successive cropping is not a commercially sound proposition and will devise some scheme of levy compensation whereby it will be possible to rest infected fields under other crops for considerable periods. An experiment showing the effect of delayed infection on the growth of the potato plant due to the intervention of a permeable peat pot is described and illustrated. R.T.L.

29—Journal of the Royal Army Veterinary Corps.

- a. MASUD, M., 1940.—“Filariasis in the horse.” 11 (2), 67-68.

30—Journal of Tropical Medicine and Hygiene.

- a. GREIG, E. D. W., 1940.—“Notes on cases of calabar swellings with radiological observations.” 43 (2), 19-21.
b. GREIG, E. D. W., 1940.—“Case of epilepsy of long duration due to cysticercosis.” 43 (4), 49-52.

(30b) Greig describes a case of cysticercosis involving epileptiform fits of the Jacksonian type decreasing in severity over a period of years. Calcified cysticerci in soft tissues, but not in the brain, were revealed by X-rays. There was no peripheral eosinophilia. The patient had harboured a tapeworm (possibly *Taenia solium*) some years earlier. B.G.P.

31—Lingnan Science Journal.

- a. KOO, S. Y., 1940.—“Parasitic nematodes from lizards of Canton.” 19 (1), 79-82.

32—Medical Journal of Australia.

- a. GORDON, H. McL., 1940.—“The occurrence of the broad fish tapeworm of man and carnivores in dogs in Australia.” 27th Year, 1 (2), 47-48.

(32a) *Diphyllobothrium latum* has been found in 3 dogs in New South Wales, one from Picton Lakes, the other 2 from Kempsey. So far neither of its two intermediate hosts have been determined in Australia. The cases so far recorded from man have been from immigrants. R.T.L.

33—Medical Parasitology and Parasitic Diseases.

- a. SKRYABIN, K. I., 1940.—“Invasions à filariides chez l'homme en l'URSS.” 9 (1/2), 119-127. [In Russian: French summary p. 127.]
- b. SHULMAN, E. S., VISHNEVSKAYA, S. M., PARETSKAYA, M. S., ZATURENSKAYA, V. L. & HEFT, V. M., 1940.—“Contributions à l'étude de la propagation de l'opisthorchose en Ukraine.” 9 (1/2), 143-145. [In Russian.]

(33a) Loaiasis in man in the U.S.S.R. is represented by *Loa extraocularis* Skrjabin, 1917. It has been recorded 8 times, in 6 of which the parasite was situated in the eye. The worms are enclosed in a connective tissue capsule—a reaction of the host tissues to the parasite—and in all cases only immature females were found. It is probable that man is only an accidental host for this species. J.J.C.B.

34—Nature. London.

- a. DUDDINGTON, C. L., 1940.—“Predaceous Phycomycetes from Cotswold leaf-mould.” [Correspondence.] 145 (3665), 150-151.

(34a) Duddington has obtained certain predaceous phycomycetous fungi in plate cultures inoculated with leaf mould from areas in the Cotswolds. One of these, *Stylopaga hadra*, captures free-living nematodes by means of a sticky substance on the hyphae. A bulbous swelling arises on a hypha at a point where a nematode touches it and from this a process grows into the nematode whose body-contents are destroyed. T.G.

35—Nederlandsch-Indische Bladen voor Diergeneeskunde en Dierenteelt.

- a. SCHAAF, A. VAN DER & ROZA, M., 1940.—“Brucellosis en onchocerciasis in verband met een chronisch gewrichtslijden bij runderen.” 52 (1), 1-20. [English summary pp.18-19.]

(35a) Whilst incriminating *Brucella bovis* in the aetiology of a joint weakness in Sumatran zebu, van der Schaaf & Roza report the presence of dead or living *Onchocerca bovis* from the peri-articular connective tissues where *Brucella* was also found. B.G.P.

36—North American Veterinarian.

- a. HARWOOD, P. D., JERSTAD, A. C., UNDERWOOD, P. C. & SCHAFER, J.M., 1940.—“The efficacy of N-butyl chloride for the removal of intestinal nematodes, especially whipworms, from dogs.” 21 (1), 35-41.
- b. MOSS, L. C., 1940.—“Heartworm (*Dirofilaria immitis*) in dogs.” 21 (2), 101-102.
- c. DAVIDSON, W. G., 1940.—“A teniacide for dogs.” 21 (3), 161-164.
- d. BROWN, H. W. & SHELDON, A. J., 1940.—“Natural infection of fleas with the dog heartworm (*Dirofilaria immitis*).” 21 (4), 230-231.

(36a) N-butyl chloride as an anthelmintic is shown from experiments on 50 dogs to be of outstanding value. Doses of 1 c.c. per kg. were given in hard gelatine capsules after a 24 hour fast. The treatment removed a total of 95.5% of the *Ancylostoma caninum* present in 25 dogs, 90.7% of the total ascarids in 15 dogs, and about 52% of the *Trichuris vulpis* in 42 dogs. With

the whipworm, however, it was shown that the efficiency of the treatment is reduced if a purgative such as castor oil is given with the drug, but the purgative may be given 24 hours before treatment or one to 30 minutes after treatment without impairing the efficiency. For dogs under 11 kg. in weight the treatment was not so effective as for the heavier dogs and a bigger dose is recommended. A suggested table of dosing is appended. J.W.G.L.

(36c) Davidson describes the use of Nemural in small animal practice from experience of its use in hundreds of cases. As a taeniocide it is especially recommended for Dipylidium but it is also used extensively purely as a purgative. Nemural was administered to dogs in doses of one tablet of 18 mg. per 15 lb. body weight and it is best given about 4 hours after feeding, followed by an enema. Case reports are included. J.W.G.L.

(36d) Dog fleas (*Ctenocephalides felis*), collected from a dog infected with *Dirofilaria immitis*, were found to harbour the various intermediate larval stages representing the complete insect developmental cycle of *D. immitis*. It is suggested that *C. felis* is a potential vector of *D. immitis*. J.W.G.L.

37—Okayama-Igakka-Zasshi.

- a. NISHIZAKI, B., 1940.—“Über die Aminoacidurie bei experimenteller Kaninchenclonorchiasis.” 52 (1), 17-24. [In Japanese: German summary p. 24.]
- b. KATO, K., 1940.—“Experimentelle Untersuchungen über die therapeutische Wirksamkeit von zwei neuen Antimonpräparaten auf die Kaninchenclonorchiasis im Vergleich mit der des Stibnals und Brechweinsteins.” 52 (1), 51-65. [In Japanese: German summary pp. 64-65.]
- c. YOSHINO, K., 1940.—“Untersuchungen über die enzystierten Zerkarien von Trematoden mit besonderer Berücksichtigung der jährzeitlichen Veränderungen in *Carassius auratus* (Linnaeus).” 52 (2), 274-308. [In Japanese: German summary pp. 307-308.]

(37a) Nishizaki has measured the increased amino-nitrogen in the urine of rabbits infected with clonorchiasis, and shown that it is related to the disturbed deamination of the diseased liver. The results of Yoshimoto (Arb. aus d. med. Fakult., 2, p.40, 1930), on the nitrogen metabolism of rabbits suffering from clonorchiasis, have been confirmed. C.T.C.

(37b) Kato has tested two new antimonials, Fouadin (sodium antimony pyrocatechin disulphonate) and “Skizze A” (sodium antimony protocatechuate) against clonorchiasis in rabbits, and compared them with Stibnal and tartar emetic. Varying quantities were injected every two or three days, 4 to 9 lots making total doses of 100 to 277 mg. of Fouadin per kg. bodyweight, and 100 to 300 mg. of “Skizze A”. With a well developed infection of *Clonorchis sinensis* 2 or 3 injections of either gradually lowered the number of eggs; with a younger infection the development of the worms in the bile duct was remarkably checked, and their numbers reduced, by 200 to 250 mg. Fouadin or 150 to 300 mg. “Skizze A”. With Stibnal or tartar emetic faecal egg counts were not reduced so much, while secondary reactions such as loss of appetite and weight were much more strongly produced. It is concluded that the new antimonials, Fouadin and “Skizze A” are better than the old. C.T.C.

(37c) Yoshino lists 11 species of metacercariae from *Carassius auratus* in Okayama Province. A total of 87,504 metacercariae was found in the 250 specimens of this fish examined. There is an annual fluctuation in the infection-coefficient of the metacercariae, which is dependent to a great extent on the temperature of the water and of the atmosphere, and varies characteristically in each species.

J.J.C.B.

38—Parasitology.

- a. EVANS, W. M. R., 1940.—“Observations on the incidence of some nematode parasites of the common rabbit, *Oryctolagus cuniculus*.” 32 (1), 67-77.
- b. EVANS, W. M. R., 1940.—“Observations upon some common cestode parasites of the wild rabbit, *Oryctolagus cuniculus*.” 32 (1), 78-90.

(38a) Evans has examined the helminth fauna of 526 rabbits from the neighbourhood of Aberystwyth. *Graphidium strigosum* was particularly abundant between the months August to March. A slight resistance to infection seems to be developed by the host when it becomes adult. *Passalurus ambiguus* infection reached its peak about June and the host gradually develops an age resistance sufficiently strong to throw out the infections completely. He found infections consisting entirely of one sex in some rabbits. *Trichostrongylus retortaeformis* occurred in large numbers, the peak period extending over the summer from March to September.

P.A.C.

(38b) Evans has made some observations on the cestodes occurring in the common rabbit in the Aberystwyth district of Wales. *Cittotaenia denticulata* occurs mainly from the breeding season until December when it begins to fall off. *C. pectinata* infections begin commonly in August, reach a peak in March and then suddenly drop. The life span would seem to be about 10 months. *Cysticercus pisiformis* was very common but Evans suggests that some resistance is developed by the host with increasing age. He describes but does not identify two species of *Hymenolepis* and suggests that both were accidental infections.

P.A.C.

39—Phytopathology.

- a. CLAYTON, E. E. & FOSTER, H. H., 1940.—“Disease resistance in the genus *Nicotiana*.” [Abstract of a paper presented at the 31st Annual Meeting of the American Phytopathological Society.] 30 (1), p. 4.
- b. LINFORD, M. B., OLIVEIRA, J. M. & YAP, F., 1940.—“The reniform nematode as a root parasite.” [Abstract of a paper presented at the 31st Annual Meeting of the American Phytopathological Society.] 30 (1), p. 15.
- c. NEWHALL, A. G. & CHITWOOD, B. G., 1940.—“Onion bloat or eelworm rot caused by the nematode *Ditylenchus dipsaci*.” [Abstract of a paper presented at the 31st Annual Meeting of the American Phytopathological Society.] 30 (1), p. 18.
- d. GODFREY, G. H., 1940.—“Ecological specialization in the stem- and bulb-infesting nematode, *Ditylenchus dipsaci* var. *amsinckiae*.” 30 (1), 41-53.
- e. LAMMERTS, W. E., 1940.—“Ethyl mercury iodide—an effective fungicide and nematocide.” 30 (4), 334-338.
- f. LINFORD, M. B., 1940.—“A miniature root-observation box.” 30 (4), 348-349.

(39a) Clayton & Foster have tested resistance in species of the genus *Nicotiana* to disease caused by blue mold (*Peronospora tabacum*), black root

rot (*Thielaviopsis basicola*), wildfire (*Bacterium tabacum*), bacterial wilt (*Bacterium solanacearum*), root-knot (*Heterodera marioni*), and mosaic. Out of more than 1,000 collections of *N. tabacum* only a slight resistance to root-knot was found. Amongst other species of *Nicotiana* tested, *N. glauca* and *N. repanda* proved to be highly resistant to root-knot. Smiths allo-polyploid (*N. tabacum* x *N. glauca*) also showed resistance to root-knot. T.G.

(39b) Linford, Oliveira & Yap give a brief account of a new nematode belonging to the Tylenchidae (scientific name not given) which has been found parasitizing the roots of more than 60 host plants in Oahu, Hawaii. Injuries include small cortical lesions and mild hypertrophy of the stele. Males do not infect plant hosts but young females penetrate roots and there give rise to certain growth changes in the tissues. The posterior, reniform part of the enlarged female body comes to the root surface and eggs are laid in a gelatinous matrix. Particulars are given of the parasite's power to withstand drying under varying conditions. T.G.

(39c) Newhall & Chitwood give an account of the disease set up in onions by the eelworm, *Ditylenchus dipsaci*, as it affects this crop in New York State. Symptoms in the seedling, the half-grown plant, and in the mature bulb are briefly described. T.G.

(39d) Godfrey gives a well illustrated account of the parasitization of a boraginaceous herb, *Amsinckia intermedia*, by *Ditylenchus dipsaci* var. *amsinckiae*. Primary infestation of the plant is amongst the leaves surrounding the growing point whence the worms enter developing flowers by migration between the floral parts to the space adjacent to the ovary. Here considerable enlargement of the tissues results in the formation of a large gall in which two complete life-cycles of the parasite take place. At the end of the season the dried galls fall to the ground. They contain thousands of larvae, mostly in the infective, pre-adult stage, which are ready to carry on the life-cycle next season. Interesting comparisons are drawn between this very specialized host-parasite relation and certain more generalized ones. T.G.

(39e) A proprietary preparation which contains 5% ethyl mercury iodide as the toxic ingredient applied to heavily infested potting soil at the rate of 2 and 3 g. per square foot resulted in the complete eradication of *Heterodera marioni* when test plants were grown. An interval of 4 to 7 days must elapse after treatment before planting. If too much of the chemical is used the root injury may be fatal. R.T.L.

(39f) Linford describes miniature glass-sided boxes for growing small plants, where microscopic study of root invasion by nematodes is necessary, 2" x 3" microscope slides being used for the sides. B.G.P.

40—Plant Disease Reporter.

- a. MIDDLETON, J. T., 1940.—“Nematode injury to potatoes in California.” 24 (3), 64-65.

(40a) Severe damage to potatoes by nematodes, presumed to be *Heterodera marioni*, occurred in California on a field which had never grown potatoes but had previously borne nematode-infested peaches. In another badly

infested field where potatoes had been grown for three years, infestation had become progressively worse. The greatest nematode injury occurs on the autumn crop.

M.T.F.

41—Plant Disease Reporter. Supplement.

- a. PARRIS, G. K., 1940.—“A check list of fungi, bacteria, nematodes, and viruses occurring in Hawaii, and their hosts.” No. 121, 91 pp.

(41a) Parris has compiled a comprehensive host-list of Hawaiian plants attacked by fungi, bacteria, viruses and nematodes. The first part consists of a general host-list and all the pathogens, including nematodes, are set out under their appropriate hosts. The section devoted to nematodes is divided into two parts dealing respectively with (i) plant parasitic nematodes and (ii) predaceous nematodes. In the former, the several host plants attacked by the following nematodes are listed, namely, *Aphelenchoides parietinus*, *Aphelenchus avenae*, *Ditylenchus dipsaci*, *Heterodera marioni*, *Pratylenchus pratensis*, *Rotylenchus multicinctus* and *Rotylenchus similis*. On p. 76 there is a list of fungi which have been found parasitic on nematodes in Hawaii. The work is completed with a bibliography of 71 titles.

T.G.

42—Prensa Médica Argentina.

- a. USLENGHI, J. P., 1940.—“Diagnóstico radiológico de los quistes hidatídicos del pulmón. A propósito del signo llamado ‘neumoquiste perivesicular’.” 27 (10), 489-508.
- b. CATALANO, F. E. & DURINI, A., 1940.—“Quiste hidatídico del glúteo menor.” 27 (10), 525-528.

43—Proceedings of the Helminthological Society of Washington.

- a. PRICE, E. W., 1940.—“A review of the trematode superfamily Opisthorchioidea.” 7 (1), 1-13.
- b. ROTHSCCHILD, M., 1940.—“A note on the systematic position of *Cercaria coronanda* Rothschild, 1938.” 7 (1), 13-14.
- c. McINTOSH, A., 1940.—“*Pseudapatemon aldousi*, new species (Trematoda; Strigeidae) from the American woodcock, *Philohela minor*.” 7 (1), 14-16.
- d. HABERMANN, R. T., HARWOOD, P. D. & HUNT, W. H., 1940.—“The efficacy of crude unconditioned phenothiazine for the removal of gastrointestinal parasites from sheep.” 7 (1), 16-18.
- e. HARWOOD, P. D., HABERMANN, R. T., ROBERTS, E. H. & HUNT, W. H., 1940.—“Preliminary observations on the effectiveness of crude, unconditioned phenothiazine for the removal of worms from horses.” 7 (1), 18-20.
- f. PORTER, D. A., 1940.—“Experimental infections of swine with the red stomach worm, *Hyostrogylus rubidus*.” 7 (1), 20-27.
- g. CRAM, E. B., 1940.—“Studies on oxyuriasis. XXIV. Comparative findings in the white and negro races.” 7 (1), 31-35.
- h. LINFORD, M. B. & OLIVEIRA, J. M., 1940.—“*Rotylenchulus reniformis*, nov. gen., n. sp., a nematode parasite of roots.” 7 (1), 35-42.
- i. LINFORD, M. B. & YAP, F., 1940.—“Some host plants of the reniform nematode in Hawaii.” 7 (1), 42-44.
- j. CHITWOOD, B. G., NEWHALL, A. G. & CLEMENT, R. L., 1940.—“Onion bloat or eelworm rot, a disease caused by the bulb or stem nematode, *Ditylenchus dipsaci* (Kühn) Filipjev.” 7 (1), 44-51.

- k. THORNE, G., 1940.—“*Duboscqia penetrans* n. sp. (Sporozoa, Microsporidia, Nosematidae), a parasite of the nematode *Pratylenchus pratensis* (de Man) Filipjev.” 7 (1), 51-53.
- l. THORNE, G., 1940.—“Methods of clearing screen residues in separating nematodes from soil.” 7 (1), 53-54.
- m. STEINER, G., 1940.—“Opuscula miscellanea nematologica. VIII.” 7 (1), 54-62.
- n. CHRISTIE, J. R. & COBB, G. S., 1940.—“The inefficacy of methyl bromide fumigation against the chrysanthemum foliar nematode.” 7 (1), p. 62.

(43a) In a revision of the Opisthorchioidea, Price finds the excretory vesicle a reasonably satisfactory basis for its division into four families: OPISTHORCHIIDAE, HETEROPHYIDAE, ACANTHOSTOMIDAE and CRYPTOgonIMIDAE. Their subdivision into subfamilies is more arbitrary and subjective. In OPISTHORCHIIDAE are placed: OPISTHORCHIINAE (*Opisthorchis*, *Clonorchis*, *Amphimerus*, *Cyclorchis*, *Cladocystis*, *Pachytrema* and *Diasia*), METORCHIINAE (*Metorchis*, *Parametorchis*, *Pseudamphistomum*, *Holometra* and *Microtrema*), RATZIINAE (*Ratzia*), and PHOCITREMATINAE (*Phocitrema* and *Witenbergia*). HETEROPHYIDAE contains: HETEROPHYINAE (*Heterophyes*, *Heterophyopsis* and *Knipowitschia-trema*), METAGONIMINAE (*Metagonimus*, *Metagonimoides* and *Acetodextra*), CRYPTOCOTYLINAE (*Cryptocotyle*, *Scaphanocephalus* and ? *Taphrogonimus*), APOPHALLINAE (*Apophallus*, *Euryhormis*, *Tauridiana*, *Ponticotrema* and *Price-trema*), GALACTOSOMINAE (*Galactosomum*, *Stictodora* and *Acanthotrema*), CENTROCESTINAE (*Centrocestus*, *Ascocotyle*, *Pygidiopsis* and *Phagicola*), HAPLORCHIINAE (*Haplorchis*), STELLANTCHASMINAE (*Stellantchasmus* and *Procerovum*), and ADLERIELLINAE (*Adleriella*). The ACANTHOSTOMIDAE contains: ACANTHOSTOMINAE (*Acanthostomum* and *Anoikistoma*), OESOPHAGICOLINAE (*Oesophagocola*), ANISOCOELIINAE (*Anisocoelium* and *Anisocladium*), ISOCOELIINAE (*Isocoelium* and *Paraisocoelium*). The CRYPTOgonIMIDAE contains: CRYPTOgonIMINAE (*Cryptogonimus*, *Caecincola*, *Centrovarium*, *Aphallus*, *Paracryptogonimus*, *Mehrailla*, *Exorchis*, *Pseudexorchis*, *Biovarium* and *Metadena*), NEOCHASMINAE (*Neochasmus*, *Allacanthochasmus* and *Opisthometra*), SIPHODERINAE (*Siphodera* and *Siphoderina*), POLYORCHITREMATINAE (*Polyorchitrema*). The subfamily MASENIINAE of Chaterji, 1933 has affinities with the ACANTHOCOLPIDAE. The family MONODHELMINTHIDAE Dollfus, 1937 may possibly belong to the Opisthorchioidea. Price also lists a large number of genera as synonyms.

R.T.L.

(43b) Type and morphological detail place *Cercaria coronanda* in the Opisthorchioidea. It is probably a midway form somewhat nearer to Acanthostomidae than Heterophyidae.

R.T.L.

(43d) Crude Phenothiazine (containing at least 98%) was tested on 6 experimental sheep in doses of 25 g. per animal with the following results. *Bunostomum* 90.2%, *Oesophagostomum* 84.3%, *Haemonchus* 95.9%, *Ostertagia* 48.1% at least, *Trichostrongylus* 76.8%, *Cooperia* 14.9% and *Nematodirus* 0%. The drug failed to remove any *Strongyloides*, *Capillaria*, *Trichuris* and *Moniezia* present. There was no significant difference in the

effectiveness of recrystallized and good grade crude Phenothiazine. The drug is apparently less effective in sheep obviously ill than in healthy sheep.

R.T.L.

(43e) Commercial Phenothiazine was administered in hard gelatin capsules in doses from 80 to 90 g. to three horses : a mule received half of its dose in a food mixture. The animals were killed one week later but in the meantime the faeces had been collected on a smooth concrete floor. Of 53 *Strongylus* spp. 94.5% and of 112,241 cylicostomes 100% were removed. The drug was ineffective for ascarids and bots. None of the animals treated suffered from symptoms of intoxication. Probably the doses used were larger than necessary.

R.T.L.

(43f) In experimental infections of pigs with *Hyostrongylus rubidus* eggs appear after 20 days and infections persist for at least 6 to 8 months. No clinical symptoms were observed but small ulcers occur chiefly in the mucosa of the fundus and lesser curvature of the stomach. Healed ulcers were found 85 days after infection.

R.T.L.

(43g) Cram records 19.8% of 131 negro and 33% of 209 white children in Washington infested with *Enterobius vermicularis*. The results were obtained from 4 NIH swabbings per child.

M.R.Y.

(43h) Linford & Oliveira give a well illustrated description of the morphology and life-history of a new nematode, *Rotylenchulus reniformis* n.g., n.sp., parasitizing the roots of plants in the island of Oahu, Hawaii. The worms, to which the popular name of "reniform nematode" has been given, resemble *Tylenchulus* in that the young adult female enters the cortex of roots. The main part of the body then enlarges and hangs outside the roots, and from the paired ovaries eggs are produced which are laid in a gelatinous matrix. The male, which has a more weakly developed spear than the female, does not enter roots. Eggs hatch and larvae develop in the soil to young male and female without feeding and with no increase in size of body. The worms differ from all allied forms in having the opening of the dorsal oesophageal gland into the lumen of the oesophagus situated at about one stylet length behind the base of the stylet. The life-history is not so complicated as that of species of *Heterodera* in that only the females are parasitic in roots. No galls or other major symptoms of diseases are produced by the parasite.

T.G.

(43i) Linford & Yap give a list of the scientific names of 68 plants, belonging to 30 families, on the roots of which the new nematode, *Rotylenchulus reniformis* Linford & Oliveira, has been found capable of egg production.

T.G.

(43j) Chitwood, Newhall & Clement give an account, illustrated with excellent photographs, of bloat or eelworm rot of onions, caused by *Ditylenchus dipsaci*, as it occurs in New York State. The disease attacks seedlings, small plants or sets and mature bulbs. In the latter there is a white mealiness of the parenchyma on the inner surface of the first scale. The disease may progress during storage and the outer scales of bulbs may slough off. In discussing control measures the authors state that in all probability the per-

sistence of the parasite in certain fields is due, not so much to the presence of the parasite free in the soil, as to the fact that diseased bulbs are left on the surface of the soil and later ploughed under. The question of suitable crops for rotation is fully discussed. T.G.

(43k) In two separate collections of the root infesting nematode, *Pratylenchus pratensis*, one from South Carolina and the other from Georgia, Thorne found many individuals parasitized by a minute sporozoan, *Duboscqia penetrans* n. sp. Attack on the nematode can be both external and internal. In the former case the adult spore attaches itself in some way to the cuticle of the nematode and obtains nourishment without destruction of the host tissue. In the case of internal parasitism the sporozoan penetrates the cuticle and undergoes a process of multiplication leading, in some cases, to it almost filling the body of the nematode and destroying its power to produce eggs. T.G.

(43l) Thorne describes a method of removing the greater part of suspended soil particles from screen residues by collection and precipitation in the sap of the cactus *Opuntia* sp., the nematodes being left behind in the clear liquid from which they may be recovered by sedimentation. Satisfactory results are claimed from the use of saliva, while milk was found to be of some use in a number of cases although its usefulness was very limited. D.F.

(43m) In the first of 3. notes Steiner discusses the occurrence of free-living nematodes in the tissues of the surface of cuttings of plants inserted in soil, and raises the question of whether such nematodes may interfere with the successful production of roots. He gives a technical description of a new cephalob, *Chiloplacus trilineatus* n. sp., from a cutting of snapdragon. In the second note he gives an illustrated account of *Anguina australis* n. sp., from dried galls on the stems, leaves and inflorescence of the grass, *Ehrharta longiflora*, sent to the U.S. Dept. of Agriculture, Washington, from W. Australia in 1927 but only now examined in detail. The third note consists of a detailed description of the structure of *Aphelenchoides limberi* Steiner, 1936. T.G.

(43n) Christie & Cobb have tested the nematicidal properties of methyl bromide as a fumigant against the chrysanthemum eelworm, *Aphelenchoides ritzema-bosi*, by exposing three chrysanthemum plants to the vapour of the chemical at the rate of 3 pounds to 1,000 cubic feet for 1½ hours at 70°F. and under 15 inches of sustained vacuum. Young recently hatched larvae were killed but apart from these the vapour had no apparent effect on other stages of the nematode and is probably useless as a fumigant against this and other related species of plant parasitic *Aphelenchoides*. T.G.

44—Queensland Agricultural Journal.

- a. ROBERTS, F. H. S., 1940.—“The parasitic worm diseases of cattle.” 53 (2), 136-155.

45—Report (6th) of the Management Committee, Alan, Duke of Northumberland Memorial Fund.

- a. STEWART, W. L., 1940.—“Research work into sheep and lamb diseases.” 40 pp.

(45a) In a chapter on "border pinning", Stewart gives tables which show that pinning is largely prevented by worm dosing with nicotine mixture alone at three weekly intervals or by supplementary mineralized cake alone, but that the double treatment was the most effective. Sheep enclosed on hill grazings for 3 years were maintained in fair average condition, without change of pasture, when given either treatment singly. The sheep which received the double treatment were somewhat superior to free range hill sheep particularly between one and two years old. In the causation of "pinning" some nutritional deficiency is involved although worm infestation plays some part. The nature of this deficiency has not yet been ascertained. The addition of cobalt to the mineralized cake proved of no value. R.T.L.

46—Schweizer Archiv für Tierheilkunde.

- a. BORNAND, M., 1940.—"Maladies parasitaires du gibier observées en 1939." 82 (3), 116-119.

(46a) Bornand gives brief notes on the parasitic and other diseases of game birds and mammals in the Lausanne region in 1939. Diagnosis was either by autopsy or by faeces examination. Among the hosts are a number of hares imported from Hungary. B.G.P.

47—Schweizerische Medizinische Wochenschrift.

- a. SEMADENI, B., 1940.—"Erster Nachweis in der Schweiz am Spaltlampenmikroskop von zahlreichen Mikrofilarien der beiden Augen." 70 (13), 275-276.

(47a) Semadeni records, for the first time in Switzerland, the diagnosis of onchocerciasis by means of the slit lamp microscope. In both eyes of the patient, who had been resident in Africa, hundreds of living microfilariae were seen to be present in the cornea, and smaller numbers were seen swimming in the anterior chamber. The conjunctiva and iris were not invaded by the parasite. J.J.C.B.

48—Science.

- a. KUITUNEN-EKBAUM, E., 1940.—"Anthelmintic inactivity of fresh pineapple juice *in vivo*." 91 (2358), 240-241.
b. BERGER, J. & ASENJO, C. F., 1940.—"Anthelmintic activity of crystalline papain." 91 (2364), 387-388.

(48a) The digestive action *in vitro* of fresh pineapple juice on helminths is due apparently to the proteolytic enzyme bromelain, which is destroyed by the action of gastric juice. R.T.L.

(48b) A commercial preparation of papain possesses a strong digesting activity *in vitro* on *Ascaris lumbricoides* but the same strength (0.07%) did not digest *Macracanthorhynchus hirudinaceus*. The crystalline enzyme was 14 times as active as the commercial preparation. [No *in vivo* experiments are reported.] R.T.L.

49—South African Medical Journal.

- a. KOOY, F. H., 1940.—"Two cases of old caseous hydatid cysts." 14 (3), 47-49.
b. CAWSTON, F. G., 1940.—"A consideration of the life-cycle of *Fasciola* in South Africa." 14 (4), p. 84.

(49b) From the difficulty which Cawston has experienced in infecting *Limnaea natalensis* with miracidia of *Fasciola hepatica*, he concludes that this mollusc may not be more than an accidental intermediary in South Africa. *L. truncatula* occurs, but is rare and difficult to come by. There are no adequate grounds for listing *Physopsis africana* as an intermediary. B.G.P.

50—Taiwan Igakkai Zassi.

- a. YOKOGAWA, S., RO, M., WAKISAKA, K. & SO, K., 1940.—“Studies on the treatment of paragonimiasis. Part 2. On the efficacy of prontosil in combination with emetine against lung fluke disease and changes in the eggs of lung flukes during the treatment.” 39 (2), 164-181. [In Japanese: English summary pp. 180-181.]
- b. KINUGASA, M., 1940.—“Investigation on the incidence of lung fluke disease (*Paragonimus westermanii*) in Sintiku Prefecture. III. On its incidence in the children of training places for aborigines in Sintiku Prefecture.” 39 (2), 227-236. [In Japanese: English summary pp. 235-236.]

(50a) Excellent clinical and parasitological results were obtained in 9 patients suffering from paragonimiasis after treatment with emetine hydrochloride in combination with prontosil. The eggs disappeared after 7 to 16 days. Two cases relapsed, one died of unrelated disease, 2 others were not followed up and 4 cases were completely cured when seen 5 months after treatment. The effect on the eggs begins on the third day of treatment.

R.T.L.

51—Tijdschrift voor Diergeneeskunde.

- a. TENHAEFF, C. & FERWERDA, S., 1940.—“Experimenteele echinococose.” 67 (3), 124-131.
- b. VEENENDAAL, H. & BEUVERY-ASMAN, A., 1940.—“Hexylresorcine een goed anthelminthicum voor jonge honden.” 67 (5), 242-245.

(51a) “Dohyfral” is of no value in inducing the calcification of hydatid cysts.

R.T.L.

(51b) Veenendaal & Beuvery-Asman report good results against ascarids in about 24 young dogs from the use of hexylresorcinol, given in capsules at 250 mg. per kg. of body-weight. The drug is readily excreted, mainly in the urine, but is precipitated by proteins.

B.G.P.

52—Transactions of the American Microscopical Society.

- a. RANKIN, jr., J. S., 1940.—“Studies on the trematode family Microphallidae Travassos, 1921. II. The genus *Spelotrema* Jägerskiöld, 1901, and description of a new species, *Spelotrema papillorobusta*.” 59 (1), 38-47.
- b. MACY, R. W., 1940.—“A new species of trematode, *Allassogonoporus vespertilionis* (Lecithodendriidae), from an Oregon bat, *Myotis californicus caurinus* Miller.” 59 (1), 48-51.
- c. HUNTER, III, G. W. & HUNTER, W. S., 1940.—“Studies on the development of the metacercaria and the nature of the cyst of *Posthodiplostomum minimum* (MacCallum 1921) (Trematoda; Strigeata).” 59 (1), 52-63.
- d. HAMILTON, P. C., 1940.—“A new species of *Taenia* from a coyote.” 59 (1), 64-69.

(52a) Rankin emends the generic diagnosis of *Spelotrema*, redescribes its 5 valid species, adds *S. papillorobusta* n. sp., from the caeca and lower intestine of the birds *Arenaria interpres morinella*, *Pisobia minutilla*, and *Crocethia alba* from Massachusetts, and appends a note on *Heterophyes brevicaeca* which Tubangui & Africa (1938) transferred to *Spelotrema*. B.G.P.

(52b) Macy emends the generic diagnosis of *Allassogonoporus*, erected by Olivier, 1938 for *A. marginalis* from the muskrat, and adds *A. vespertilionis* n. sp., from the intestine of a small brown bat in Oregon. Among the differentiae of the new species is the presence of large spines. B.G.P.

(52c) The Hunters describe in detail the penetration, development, and metamorphosis into a metacercaria, of the cercaria of *Posthodiplostomum minimum* in 23 species of fish from 6 families. Masson's connective tissue stain showed that the metacercaria secretes a hyaline cyst around which is a cyst formed by the second intermediary from modified liver cells. B.G.P.

(52d) Hamilton describes and figures *Taenia laruei* n. sp. from the coyote, *Canis* sp., in Oklahoma. The new species is close to *T. brachysoma*, *T. brauni* and *T. balaniceps* from which it is differentiated; if, as Baer (1926) suggests, the first two of these congeners are synonymous, then the new species differs from it in only minor respects. B.G.P.

53—Transactions of the Royal Society of Tropical Medicine and Hygiene.

- a. SENEKJI, H. A. & BEATTIE, C. P., 1940.—“The incidence of hydatid disease in Iraq.” 33 (4), 461-462.
- b. LANE, C., 1940.—“Hookworm diagnosis. Assumptions, alterations, controls, time-lag, rediscoveries; D.C.F.” 33 (5), 521-536.
- c. MENON, T. B. & VELIATH, G. D., 1940.—“Tissue reactions to *Cysticercus cellulosae* in man.” 33 (5), 537-544.

(53a) Of 123 street dogs killed by the police in Baghdad, 22 (17.83%) had *Taenia echinococcus*, 30 *Ancylostoma caninum*, 23 *Toxocara canis*, and 121 *Dipylidium caninum*. Of 2,347 sheep and goats 11.93%, and of cattle 24.66% were infected with hydatids. R.T.L.

(53b) Lane discusses the methods used by New Orleans workers in appraising techniques of diagnosing helminth eggs in faeces. He criticizes in particular an adaptation of Lane's D.C.F. which was used by these workers and gives a detailed comparative description of the various steps in this adaptation and in the original D.C.F. method. J.J.C.B.

(53c) Menon & Veliath describe the tissue reactions in human cysticerciasis from a study of 3 cases in each of which the brain was involved and in one of which the heart, diaphragm, intercostal and pectoral muscles were also involved. The nature of the tissue reactions, which result in the formation of 3 different zones surrounding the parasite, is described and illustrated by photomicrographs. The main pathological basis of the nervous symptoms is thought to be the formation of multiple scars in the brain and overlying meninges which result from the gradual absorption of the parasite. J.J.C.B.

54—Veterinarski Arhiv.

- a. ERLICH, I. & MIKAČIĆ, D., 1940.—“Parazitološke pretrage purana (*Meleagris gallopavo*.” 10 (3), 115-129. [English summary p. 129.]

(54a) Erlich & Mikačić have examined the helminth fauna of 50 turkeys in Yugoslavia. Of the 12 species obtained *Ascaridia lineata* was the most common, occurring in 40 birds. Next came *Heterakis gallinae* and *Trichostrongylus tenuis*, both of which seemed more abundant in the late summer and autumn. *Cyathostoma bronchialis* is recorded for the first time from this host. A new species, *Capillaria combologiodes*, is described. The oesophageal cells are fusiform giving the superficial appearance of a string of pearls. This is more marked in the female than the male. In both sexes there are transparent excoriations scattered irregularly throughout the anterior region of the body. P.A.C.

55—Veterinary Bulletin. U.S. Army. Washington.

- a. TRUM, B. F., 1940.—“N-butyl chloride, B.P. 78.5 as an anthelmintic.” 34 (1), 20-24.

(55a) N-butyl chloride was given, after a 36 hour fast, to 5 horses in doses of 0.1 c.c. per lb. body weight, and the effect on the horses is described. *Gastrophilus* larvae were unaffected by the drug, but in one horse 82 trichonemas and 12 *Oxyuris equi* were recovered from the faeces after treatment. Post-mortem showed no macroscopic nematodes to be present in the 5 horses. Another horse was given 250 c.c. of undiluted drug without fasting and showed no ill effects. J.W.G.L.

56—Veterinary Medicine.

- a. HABERMANN, R. T. & HARWOOD, P. D., 1940.—“Efficacy of recrystallized phenothiazine for the removal of nematodes from the gastrointestinal tract of sheep.” 35 (1), 24-29.
 b. WEHR, E. E., 1940.—“Nematodes of domestic fowls transmissible to wild game birds.” 35 (1), 52-58.
 c. JOHNSON, K. L., 1940.—“Bovine verminous pneumonia.” 35 (2), 90-91.
 d. ACKERT, J. E., 1940.—“The large roundworm of chickens.” 35 (2), 106-108.
 e. DAVIS, D. E., 1940.—“Nicotine in the control of *Ascaridia lineata* in fowls.” 35 (2), 109-111.
 f. SHORB, D. A., 1940.—“A note on the effect of tapeworm infestation on the condition of sheep.” 35 (3), 180-181.

(56a) The authors find that Phenothiazine, recrystallized by dissolving the commercial product in toluene, is very effective in removing *Oesophagostomum columbianum*, *Haemonchus contortus* and *Ostertagia* spp. in doses of 20 g. for sheep over 70 lb. in weight. It is highly efficient also in doses of 25 g. in removing *Bunostomum trigonocephalum* and *Chabertia ovina*, and is apparently fairly effective against *Trichostrongylus* spp. and *Cooperia* spp. R.T.L.

(56b) Wehr points out that one of the dangers of rearing game chicks under bantam hens is the transmission of helminth parasites, normally resident in domestic fowls, to the game birds. A number of such parasites

can live in game birds and may produce clinical symptoms there. Gape worms and crop worms cause serious lesions while a number of intestinal worms have a wide range of possible hosts. While some of these helminths may not often cause death, the birds become unthrifty and may therefore become more susceptible to adverse conditions. P.A.C.

(56e) Davis explains the principles behind nicotine treatment of chickens against *Ascaridia* infections. It has been found possible to administer safely a very high dose of nicotine by mixing it with an organic colloidal substance. It is so adjusted that the nicotine is not released until the mixture is acted upon by the alkaline juices of the intestine and then at a rate sufficient to destroy the parasites but not enough to cause toxic symptoms in the chickens. P.A.C.

(56f) The degree of infestation of sheep with the tapeworms *Moniezia* and *Thysanosoma* did not appear materially to influence the appearance and condition upon which grades are based, and there was no relation between the degree of infection and the grade in which the carcass was placed. J.W.G.L.

57—Veterinary Record.

- a. SLEITH, F. ST.G., 1940.—“The larger helminths in the intestines of domestic animals; their association with disease, and methods of control.” 52 (15), 275-281. [Discussion pp. 281-286.]

(57a) In this paper presented to the Veterinary Medical Association of Ireland, Sleith mentions the larger helminths found in the intestines of pigs, ruminants and horses. In the discussion following the address, reference is made to an experiment which showed that sheep receiving monthly doses of copper sulphate from November to May gave better live-weight increases than undosed sheep grazing on the same pasture. D.O.M.

58—Zeitschrift für Fleisch- und Milchhygiene.

- a. SCHROEDER, F., 1940.—“Seltener Finnenfund.” 50 (8), p. 85.
- b. HÖKL, J., CERVINKA, F. & KLAUZ, A., 1940.—“Beitrag zur Feststellung der Verbreitung der Trichinose bei Menschen und Tieren.” 50 (10), p. 112.

(58a) Schroeder reports a single *Cysticercus bovis* from the leg muscle of a cow. B.G.P.

(58b) Hökl et al. report that of 198 dogs, 40 cats, and 459 human corpses examined post mortem for trichinellosis at Brno, all were negative with the possible exception of one human case in which 2 ellipsoidal bodies were found. B.G.P.

59—Zentralblatt für Bakteriologie. Abteilung 1. Originale.

- a. KREIS, H. A., 1940.—“Beiträge zur Kenntnis parasitischer Nematoden. IX. Parasitische Nematoden aus dem Naturhistorischen Museum Basel.” 145 (3), 163-208.

(59a) Kreis describes *inter alia* the following new forms: *Pseudostrongyloides ophidia* n.g., n. sp. from *Natrix hypomelas*, etc., *Hexadontophorus ophisauri* n.g., n. sp. from *Ophisasaurus* sp., *Kalicephalus enygri* n. sp. from *Enygus asper*, *Oxyuris armata* n. sp. from *Papio hamadryas*, *Strongyluris gonycephali* n. sp. from *Gonycephalus geoffroyi*, *S. tridentata* n. sp. from *G. godeffroyi*, *Oxyinema*

typicum n. sp. from a rodent, *Polydelphis dalmatina* n. sp. from *Tropidonotus natrix*, *Dujardinia salomonis* n. sp. from *Crocodilus porosus*, *Physaloptera natricis* n. sp. from *Natrix hypomelas*, *P. oligopapillata* n. sp. from *Sphenomorphus jobiensis*, *P. heterocephala* n. sp. from *Gonyocephalus modestus*, *P. multipapillata* n. sp. from *Papio hamadryas*, and *Proleptus problematicus* n. sp. from *Acanthias vulgaris*. B.G.P.

NON-PERIODICAL LITERATURE.

60—GIORDANO, M., 1940.—“Patologia e parassitologia dei paesi caldi.” Milano & Roma, 2nd edit., xxiv+1015 pp.

61—*VOSS, J., 1940.—“Untersuchungen über die Glykogenablagerung in parasitär erkrankten Lebern von Rindern, Schweinen und Schafen.” Dissertation, Hannover.

With a view to testing the effect of liver parasites on carbohydrate metabolism, Voss has examined (according to an abstract in the Deutsche tierärztliche Wochenschrift) 50 livers of ox, sheep, and pig infested with hydatid, fluke, and *Cysticercus tenuicollis*. The connective tissue cells of the host-capsule around hydatid are heavily impregnated with glycogen, which is present to a less extent in the fibroblasts and round cells in the cholangitic tissue of fascioliasis. However, flukes have no direct effect on carbohydrate metabolism. B.G.P.

* Original not available for checking or abstracting.

